

<b>DECLARATION FOR PATENT APPLICATION</b> (Includes Reference to PCT International Applications)	ATTORNEY'S DOCKET NUMBER 247322001700
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As a below named inventor we hereby declare that:

Our residence, post office address and citizenship are as stated below next to our names,

We believe we are the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**SEMICONDUCTOR DEVICE AND DRIVING METHOD THEREOF**

the specification of which (check only one item below):

- ☐ is attached hereto.
- ☒ was filed as United States application  
                                 Serial No. 09/424,966  
                                 on November 30, 1999
- ☒ was filed as PCT international application  
                                 Number PCT/JP98/00963  
                                 on March 9, 1998.

We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37 Code of Federal Regulations § 1.56(a) and (b).

We hereby claim foreign priority benefits under Title 35 United States Code § 119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

**PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119:**

COUNTRY (if PCT indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 U.S.C. § 119
Japan	No. 9-142575	30, 05, 1997	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

<b>Declaration for Patent Application (Continued)</b> (Includes Reference to PCT International Applications)				ATTORNEY'S DOCKET NUMBER 247322001700	
We hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:					
<b>PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. § 120:</b>					
U.S. APPLICATIONS			STATUS (Check one)		
U S APPLICATION NUMBER	U S FILING DATE	PATENTED	PENDING	ABANDONED	
PCT APPLICATIONS DESIGNATING THE U.S.			STATUS (Check one)		
PCT APPLICATION NUMBER	PCT FILING DATE	U S SERIAL NUMBERS ASSIGNED (if any)	PATENTED	PENDING	ABANDONED
<b>Send correspondence to:</b> <u>Thomas E. Ciotti</u> <u>Morrison &amp; Foerster LLP</u> <u>755 Page Mill Road</u> <u>Palo Alto, California 94304-1018</u>			<b>Direct telephone calls to:</b> Thomas E. Ciotti at (650) 813-5702		
201	FULL NAME OF INVENTOR <u>Shibata</u>	FAMILY NAME <u>Shibata</u>	FIRST GIVEN NAME <u>Akihide</u>	SECOND GIVEN NAME	
	RESIDENCE & CITIZENSHIP <u>Nara-shi</u>	CITY <u>Nara-shi</u>	STATE OR FOREIGN COUNTRY <u>Nara Japan JPX</u>	COUNTRY OF CITIZENSHIP <u>Japan</u>	
	POST OFFICE ADDRESS <u>104-B203, Misasagi-cho</u>	POST OFFICE ADDRESS <u>104-B203, Misasagi-cho</u>	CITY <u>Nara-shi</u>	STATE & ZIP CODE/COUNTRY <u>Nara 631-0803 Japan</u>	
202	FULL NAME OF INVENTOR <u>Iwata</u>	FAMILY NAME <u>Iwata</u>	FIRST GIVEN NAME <u>Hiroshi</u>	SECOND GIVEN NAME	
	RESIDENCE & CITIZENSHIP <u>Ikoma-gun</u>	CITY <u>Ikoma-gun</u>	STATE OR FOREIGN COUNTRY <u>Nara Japan JPX</u>	COUNTRY OF CITIZENSHIP <u>Japan</u>	
	POST OFFICE ADDRESS <u>2-4-13, Shigigaoka, Sango-cho</u>	POST OFFICE ADDRESS <u>2-4-13, Shigigaoka, Sango-cho</u>	CITY <u>Ikoma-gun</u>	STATE & ZIP CODE/COUNTRY <u>Nara 636-0813 Japan</u>	
We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.					
SIGNATURE OF INVENTOR 201 <u>Akihide Shibata</u>		SIGNATURE OF INVENTOR 202 <u>Hiroshi Iwata</u>			
DATE <u>January 18, 2000</u>		DATE <u>January 18, 2000</u>			

COPY

ASSIGNMENT  
JOINT

COPY

THIS ASSIGNMENT, by **Akihide SHIBATA** and **Hiroshi IWATA** (hereinafter referred to as the assignors), residing at 104-B203, Misasagi-cho, Nara-shi, Nara 631-0803, JAPAN and 2-4-13, Shigigaoka, Sango-cho, Ikoma-gun, Nara 636-0813 JAPAN, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in **SEMICONDUCTOR DEVICE AND DRIVING METHOD THEREOF**, set forth in the 35 U.S.C. § 371 application of International Patent Application bearing serial number **PCT/JP98/00963** and filed on **09 March 1998**; and

WHEREAS, **Sharp Kabushiki Kaisha**, a Japanese corporation duly organized under and pursuant to the laws of Japan and having its principal place of business at **22-22, Nagaike-cho, Abeno-ku, Osaka-shi, Osaka 545-8522 JAPAN** (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

<u>January 18, 2000</u>	<u>Akihide Shibata</u>
Date	Akihide SHIBATA
<u>January 18, 2000</u>	<u>Hiroshi Iwata</u>
Date	Hiroshi IWATA

**CERTIFICATE UNDER 37 C.F.R. § 3.73(b)**

Docket No. 247322001700

In the application of: Akihide SHIBATA and Hiroshi IWATA  
 Serial No.: 09/424,966  
 International Application No.: PCT/JP98/00963  
 International Filing Date: 09 MARCH 1998  
 For: SEMICONDUCTOR DEVICE AND DRIVING METHOD THEREOF

SHARP KABUSHIKI KAISHA, a Japanese corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application identified above. A copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s) of the patent application identified above, to the current assignee as shown below:

1. From :

To:

The document was recorded in the Patent and Trademark Office at Reel , Frame , or for which a copy thereof is attached.

2. From :

To:

The document was recorded in the Patent and Trademark Office at Reel , Frame , or for which a copy thereof is attached.

3. From :

To:

The document was recorded in the Patent and Trademark Office at Reel , Frame , or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.


☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: February 8, 2000

  
 Name: Haruyasu SASAKI

Title: Group General Manager  
 Intellectual Property Group